FOREIGN AGRICULTURE

October 1961

Lumbering in Thailand

Our Booming Rice Sales to Britain
United States' Trade in Timber Products
Cigarettes Boost World Tobacco Trade

UNITED STATES DEPARTMENT OF AGRICULTURE · FOREIGN AGRICULTURAL SERVICE

To report and interpret world agricultural developments

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Food Is Power

On page 5 of this issue are pictures of the new U.S. Trade Center in London where as part of our market development work abroad a special exhibit of American foods was staged this past month.

But behind this there is an even bigger story, and it was effectively dramatized at the opening ceremonies by Secretary of Agriculture Orville L. Freeman. The story, simply stated, is: "Food is power."

"This is a day," the Secretary told his predominantly British audience, "when we are all acutely conscious of the competing ideologies of the totalitarian and the free world. Often the question is asked as to who might be superior in one or another aspect of production, for with production goes power.

"As this question goes through our minds, I think we can say with emphasis that there is no question, there is no possible doubt, as to who is more efficient, as to who feeds its people better, and who can produce the most food and fiber. As a matter of fact, the agricultural productivity of the Western World is the most extraordinary accomplishment in the history of mankind.

"Here indeed freedom and free institutions and a freely organized society demonstrate in a dramatic way that this enormous burgeoning productivity is a blessing, not a burden; that even though it provides us at certain times and places with problems, nevertheless it is a source of strength and a great blessing indeed.

"I think perhaps the greatest challenge that the free world faces is to be able to use this great productivity effectively."

Cover Photograph

In Thailand most of the heavy logging is done by elephants. Here elephant pushes teak log that has been loaded on a small tram car to truck depot on main highway. The United States buys some of its tropical hardwoods from Thailand and other Southeastern Asia areas. See story on page 12.

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Our Booming Rice Sales to Britain

Government and industry teamwork pushed U.S. rice sales to Britain from near zero to 25 percent of the market within 5 years.

By DEXTER V. RIVENBURGH
Grain and Feed Division
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Market development is generally accepted to mean extension of trade through commercial sales. Opinions vary, however, on how to use the technique to attain best results. Is market development only a competitive maneuver to increase a product's share in a given market for a relatively short time? Or is it a program geared to a long-range consideration of market potentialities—as well as immediate sales?

Industry and government are working out the answer through experience gained in developing markets for principal U.S. agricultural commodities throughout countries in every major land area of the world. Each commodity and each area presents certain individual problems. However, during the 7 years in which foreign currencies have been available for market development under Public Law 480, experience has indicated certain basic methods of approach to be successful.

First of all, it is important to have an integrated method of operation—one in which government, the industry, and individual firms work as a team in discharging separate or joint responsibilities.

A Cooperative Approach

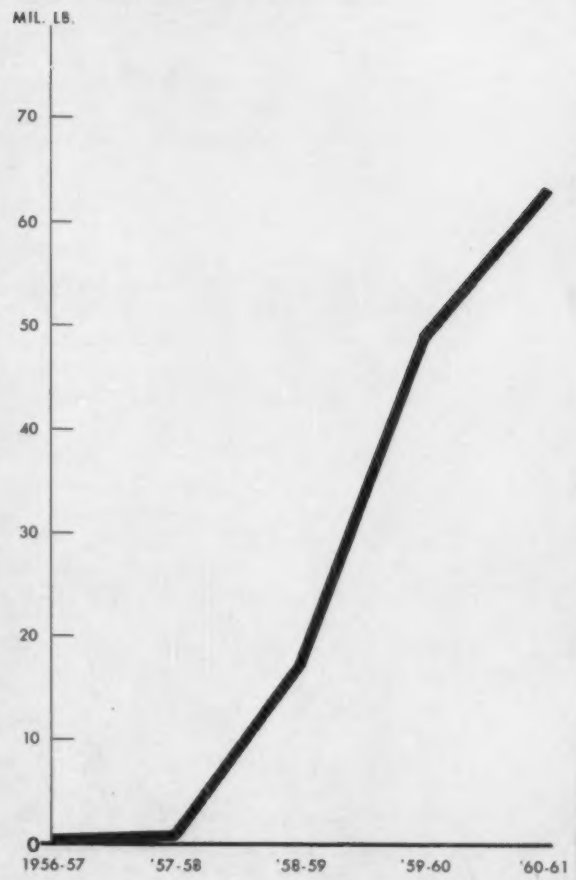
There are certain preliminary phases of the work best performed by government alone. At another point, industry and government work together most advantageously. In another, the industry works alone effectively. And finally, individual companies, in addition to supporting the total market development program, must be prepared to sell and merchandise their own products within the area involved.

The validity of this approach is born out by the outstanding success achieved by market development for U.S. rice in the United Kingdom.

Prior to World War II, the United States exported to Britain only a small quantity of rice products, almost entirely in the form of breakfast foods. The British Empire took almost all its rice from Burma, which had been ruled by Britain as a part of India, and at this time was a member of the British Commonwealth. Britain had adequate shipping and a domestic rice-milling industry. There was no need for rice from Western Hemisphere sources.

During the war period and international control of rice (1944-49), rice imports into the United Kingdom and Europe were cut off by agreement, so that more rice might be available for countries where rice is a major item of diet.

Then in 1948, Burma declared its independence, and its rice no longer went exclusively to Britain. The United Kingdom, hard pressed for exchange, could not import rice from dollar sources, so for the next 5 or 6 years most of Britain's rice necessarily came from other Asian nations and from South America.



During 1951-55, an average of less than 500 cwt. of U.S. rice was included in Britain's total takings of 1.6 million cwt. And by 1957-58 the United States was still only selling Britain less than 1,000 cwt. out of a possible 1.5-million market.

It was not until 1958-59 that certain U.S. Government programs enabled U.S. rice sales to Britain to rise to 171,600 cwt. out of a possible 2.1 million.

First were negotiations by the government in early 1958 which resulted in liberalization of British trade restrictions. Rice was placed on general license for importation into the United Kingdom which permitted British rice

importers to select their own sources.

Then the payment-in-kind export program in late 1958 helped make U.S. rice competitively priced.

When foreign currencies under P.L. 480 became available in 1959 for market development in Great Britain, U.S. rice had a well-planned program prepared, the results of which are readily assessable.

U.S. rice sales to Britain in 1959-60 went to 488,000 cwt. out of a possible total of 1.9 million. Most recent figures show that during the first 11 months of 1960-61, Britain has already imported 516,172 cwt. of U.S. rice, out of an as yet unannounced total. This means that the U.S. rice industry enjoys a more than 25-percent share in a major market—representing the production of 21,700 acres moving to a cash dollar market.

This remarkable achievement can almost certainly be laid at the door of an unusually efficient market development program operating with a maximum of cooperation between government, industry, and individual firms—each fulfilling its function, either singly or jointly.

Government was responsible for the collection, analysis, and dissemination of statistical data on consumption, trade, and the competitive position of imported rice into the United Kingdom. This material was used by the rice industry in planning market development work.

Industry to the Fore

Industry now began to assume a more active role. The U.S. Rice Export Development Association was created. It represented, and was supported by, the entire U.S. rice industry. Its purpose—to initiate, or participate in, market development work in foreign countries with foreign currencies generated by sales of agricultural surpluses under P.L. 480.

The Association took over responsibility for promoting rice at two foreign trade fairs. At a previous fair the government had handled completely all rice promotional activities.

Market development was ready for a maximum promotional effort: Plans evolved were based on adequate surveys and basic information; demonstrational material, promotional techniques, and consumer interest had been tested. The entire U.S. rice industry was organized for promotional work.

Concentrated Merchandising

In the initial phases of the program government and industry worked jointly in market potential surveys, in contacts with brokers, importers, retail outlets, and consumers—in promotional luncheons and meetings—and in the release of educational and promotional material for various information media.

The Association and individual U.S. firms contributed the services of trained personnel and promotional materials which had proven effective in the United States and were adaptable for use in Britain.

The Association also undertook the training, maintenance, and supervision of field personnel, as well as increasing work with Britain's importing, wholesale, and retail trade. This included hotel, restaurant, and caterer associations, as well as consumer groups.

The result has been that American rice—in many specially processed forms and efficiently packed for modern home use—has already become an important item, particularly in the London area.

Some of the rice is in the form of brand products, either in consumer packages, or in one-hundred-pound packages. Some rice is repacked after arrival in the United Kingdom into cellophane or cardboard containers under local brand names. Brown rice is processed by English millers and moved into distribution channels.

Rice Companies Active

The promotional work done by individual American firms on behalf of their own brands and products has been of great importance. Their sales representatives have covered the territory. The companies have undertaken local advertising and used other promotional media, as well.

These individual interests operate under the umbrella of the overall market development project, but are completely self-financed. This sort of activity greatly expands and extends the work of the project.

Until recently, the Association and individual firms have largely concentrated on the greater London area. The result has been that where once only breakfast foods were available in retail outlets, American rice in many forms is now commonplace.

The Association is now branching out into other major centers of population in the United Kingdom. The group has a new, full-time field representative with long experience in promotional merchandising, and plans to participate fully in the new London Trade Center.

With past successes tied firmly to its belt, the industry has now set its sights on greatly expanded sales throughout the British Isles. One of the best-informed representatives of the British rice trade recently said the increased interest in rice would in all likelihood result in 50 percent more rice imports in the next few years, and might well double in the next decade.

In any event, there is no question but that U.S. rice is solidly established in the United Kingdom. And, the market development program has been so soundly conceived and executed there is every reason to believe that sales of U.S. rice will continue to rise in this important market.

German Farm Labor Force Continues To Decline

Recent published figures of the 1960 German Agricultural Census indicate that in mid-1960 there were 3.17 million permanent and 1.26 million part-time farm family workers on 1.6 million farms. In addition there were 779,000 permanent and part-time hired laborers.

In the past decade the number of farm family workers has declined by 1.4 million or about 25 percent. The decline was largely in the number of family workers on smaller farms. The census also revealed that for the same period the number of hired workers decreased by nearly two-thirds. These declines were much larger than had been expected.

To overcome labor shortages, farmers have turned to further mechanization. In the past 10 years, tractor numbers have increased 10 times and the number of threshing machines, 20.

Above, Selfridge's, big London department store, features U.S. foods. Right, Secretary Freeman pauses for picture-taking at the new London Trade Center.

U.S. Foods Shown in Britain

British housewives, through their merchants, are getting acquainted with a wider range of American food products than they have ever known before.

This is the result of an introductory sales program undertaken in the United Kingdom by cooperating U.S. agricultural groups and the American food industry, together with the USDA Foreign Agricultural Service.

Headquarters of the program is the new U.S. Trade Center in London, right off Piccadilly. Here in September an attractive display of packaged, canned, and frozen American foods drew thousands of British food industry people, including importers, distributors, caterers, and restaurateurs.

More than 3,000 separate food items were displayed at the Trade Center by the 116 participating American food suppliers and their British representatives. Two leading London department stores simultaneously featured American foods while the exhibit was in progress. In the city of Manchester, a companion exhibit spoke for American foods to the consumers of northern England.

Secretary of Agriculture Orville L. Freeman, in his first overseas trip since becoming Secretary, officially opened the London Trade Center food exhibit on September 5.

Trade between the United States and the United Kingdom, he said, is a reflection of the old and the new—old because it has taken place for well over 300 years, new because it is marked by new products and new technology. He said that the foods from America—"convenient, effective, sanitary, and useful"—mark one of the real advances in the modern world.

Secretary Freeman noted that the United Kingdom has been the best single market for U.S. farm products, and he expressed the hope that in today's changing world nothing will develop to impede increasing and relatively free flow of products from American farms to British consumers.

British consumers got some idea of the variety of food available to American housewives when they saw this special exhibit at the London Trade Center. Over 3,000 items were on display there.

Increased Cigarette Output Boosts World Tobacco Trade

By JOHN B. PARKER, Jr.
Tobacco Division Foreign Agricultural Service

More cigarettes are being smoked—and manufactured—all over the world. As a result, international trade in tobacco is bigger than ever before.

Rising per capita use of cigarettes in the more prosperous countries accounts for most of the 5-percent annual increase in cigarette output. The average U.S. adult smoked 3,800 cigarettes in 1960; the average Englishman, only 1,000 less. Australia, Canada, Ireland, and New Zealand are also among the top 10 in per capita cigarette consumption. The average Russian smokes about half the amount smoked by the U.S. adult, but per capita consumption in the USSR, as in Japan and West Germany, shows a higher rate of growth.

Smoking is increasing even faster in less-developed countries, though annual per capita tobacco use is still low compared to that of wealthier nations. In Tropical Africa, consumption is usually below 1 pound compared with 3 pounds in South Africa and 2 in Algeria, Rhodesia and Nyasaland, and Tunisia. In the last few years, consumption has gained markedly in Ghana, Liberia, Senegal, Sudan, Ethiopia, Kenya, Tanganyika, the Ivory Coast, and Mozambique.

Major Markets Expanding

Growing out of this expanded cigarette consumption and manufacture are steadily rising tobacco imports, especially by the top world markets—the United Kingdom, the USSR, West Germany, the United States, the Netherlands, and Belgium. Together they account for about two-thirds of the 1.7-billion-pound tobacco trade.

European farmers produce only about half the continent's needs. About 80 percent of all tobacco entering world trade goes to Europe. Western Europe imports over 1 billion pounds; Eastern Europe (including Soviet Russia) over 325 million. Europe's domestic production is likely to be even lower in the near future because the spread of Blue Mold has reduced production sharply in some important tobacco growing areas, especially Italy and West Germany. Fear of this fungus disease has reduced plantings in other countries.

Over 95 percent of United Kingdom's imports are flue-cured, mostly from the United States and the Federation of Rhodesia and Nyasaland. Of 314 million pounds used last year by British factories, 154 million came from the United States, a slight increase over the previous year. Imports from the Federation reached 103.4 million, almost double 1950's.

Cigarettes containing over 95 percent flue-cured tobacco also predominate in Australia, Canada, Ireland, and New Zealand.

USSR Imports Double

The USSR is now the world's second largest importer of tobacco, mostly from Bulgaria, Mainland China, and Greece. (Bulgarian leaf is a particular favorite.) Annual imports now exceeds 200 million pounds—almost double the level of 6 years ago.

Russia produces approximately half its cigarette tobacco needs. Production of better-quality oriental tobacco is increasing while the acreage of low-quality Makhorka tobacco has declined.

West Germany increased its leaf imports to 193 million pounds in 1960; the United States and Greece supplied half. However, Rhodesian, Japanese, Italian, Philippine, and Thai tobaccos are making the largest relative gains in this market. Since the war, German taste has changed from oriental-type cigarettes to the blended type, which now accounts for over 80 percent of total consumption.

Increasing cigarette output in the United States, plus a slight gain in the percentage of oriental tobacco used in cigarettes, has increased the demand for imported leaf. Cigar manufacture is growing and it, too, uses more imported tobacco. About 75 million pounds of U.S. leaf imports last year came from Turkey, 32 million from Greece and most of the rest from Yugoslavia, Italy, Cyprus, the Philippines, Cuba, and Latin America.

The Netherlands imported a record 105 million pounds of unmanufactured tobacco in 1960, primarily U.S. and Rhodesian. Belgium also increased tobacco imports. However, Belgian cigarettes sell for the government-fixed price of 20 cents a pack, so that a large share of the 64.5 million pounds imported in 1960 was low-cost leaf from Latin America and India.

Consumer Preference Varies

Dark cigarettes are popular in France and Spain and in both countries consumption is on the rise. French imports of leaf should go up in 1961: domestic production is down and, in addition, 1960 imports were 8.5 million lower than the 67 million of 1959. Imports will probably come mainly from French Associated Areas, Greece, and Bulgaria, as usual. Spain's production is down slightly, so imports of dark tobacco from Brazil and the Philippines may increase. Spanish stocks of U.S. tobacco last year were almost half customary levels.

Portugal's tobacco imports increased in 1960 and cigarette output was up. Over half the leaf used in Portuguese cigarettes is flue-cured and imported from the United States.

Blue Mold may cause the Italian Tobacco Monopoly to draw heavily on stocks. Light cigarettes are popular in Italy and imports of U.S. tobacco for blending have averaged about 7 million pounds in recent years.

Switzerland prefers Maryland-type filter-tips and is the largest foreign market for U.S. Maryland tobacco. Oriental-type cigarettes are still important in Austria. Most of its leaf imports are from Greece, the United States, Bulgaria, Poland, and Turkey.

Aside from the USSR, the three major tobacco importers in East Europe are East Germany, Poland, and Czechoslavakia. These get most of their tobacco from Bulgaria, Greece, Turkey, and Mainland China. Exports to East Europe in 1960 by Greece, Brazil, and India were up substantially; those from Mainland China and Turkey were down. Cigarettes containing U.S. leaf

are popular in Poland, which took 1.6 million pounds of that leaf in 1960.

Non-European Imports Off

Imports by Asia, Oceania, Latin America, and Africa are declining—largely because normally large importers in this group, like Australia, the Philippines, and Indonesia, are raising considerably more tobacco and importing less. These smaller imports have offset the growth of many new and expanding smaller markets, most of which are unable to grow enough of the desired quality cigarette tobacco. Among these are Japan, Malaya, Thailand, Hong Kong, Uruguay, Ghana, Senegal, and Sudan.

Most Asian countries grow the greater part of the tobacco needed for their rapidly expanding cigarette factories. Imports, usually for blending purposes, dropped from 74 million pounds in 1959 to 63 million pounds in 1960. However, low-margin manufacturers and beginning cigarette makers in Asia and Tropical Africa, who formerly used low-quality domestic leaf, are beginning to import lower-priced tobacco from India and Latin America.

The Malayan Federation, Singapore, and Hong Kong are the only tobacco importers in Asia that rely solely on imported tobacco for their increasing cigarette output. Japan and Thailand are growing markets for U.S. tobacco, owing to consumer preference for brands containing quality cigarette leaf. Japan bought over 95 percent of its total leaf imports from the United States last year.

Aside from the Republic of South Africa and the Congo, Africa is a growing market for unmanufactured leaf. About half the countries in Africa import some U.S. tobacco for blending. South African imports dropped from over 20 million pounds of leaf in 1956 to 5 million in 1960; because of the growth in domestic production.

New cigarette factories have been built since 1950 in Ghana, Senegal, Ivory Coast, Sudan, Kenya, Congo Republic, Southern Rhodesia, Ethiopia, and Mozambique. Ghana now imports 4-5 million pounds of leaf compared with only 1 million in 1955. Its expanding industry is providing a comparatively new market for U.S. flue-cured.

World Cigarette Output

Few Latin American countries are increasing tobacco imports, though most import 200,000-300,000 pounds of U.S. flue-cured and burley for blending.

Export Competition Growing

Though world demand for leaf is rising steadily, an increasing number of exporters are competing for world markets. Over the past decade, exports from several large exporters have remained fairly stable. Exports from others, including the United States, have declined slightly. Some "emergent" exporters show appreciable gains. Only Algerian exports have gone down sharply, due to unusual circumstances.

U.S. tobacco exports rose in 1960 because stocks in the United Kingdom and several European countries had dropped to low levels. The United Kingdom removed financial restrictions and most Scandinavian countries liberalized imports; the Netherlands and Belgium built up stocks while low tariffs were still in effect. In addition, increased advertising on behalf of high-quality cigarettes containing U.S. tobacco created a greater demand in Japan, Finland, and Egypt.

The Federation of Rhodesia and Nyasaland is the United States' most formidable competitor. Its flue-cured tobacco prices are usually about 15-20 cents per pound lower than those for similar U.S. grades. The Rhodesians have increased their export volume since 1955 more than any other country, although the Republic of South Africa showed the largest percentage gain between 1955 and 1960.

The Federation exports over 90 percent of its production. About 165 million pounds exported in 1960 were flue-cured, the remainder dark fire-cured from Nyasaland. An excellent marketing system and scientific farming methods enable the Federation to export large supplies of constantly improving tobacco.

Bulgaria, the world's third largest exporter, sent the major part of its 154-million-pound exports to the Soviet Union and Eastern Europe last year. Thirteen million pounds of oriental tobacco went to Common Market countries. Greece's tobacco exports to the Communist Bloc rose considerably last year, and sales to its two chief markets, West Germany and the United States, remained stable.

Turkey's exports in early 1961 were up sharply. The United States, the Common Market, and Eastern Europe take most of these exports, which run 125–195 million pounds.

Mainland China's tobacco exports have declined since their 1957 peak. The Soviet Union took 80 million pounds of Chinese tobacco in 1959, compared with 98 million pounds in 1957. East Germany, Czechoslovakia, and Egypt are other important markets.

India has held its tobacco exports

(Continued on page 22)

A flock of Merino sheep.

U.S.-South African Trade Potentials

By W. J. EDENS
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South African agriculture is becoming steadily more productive. Even so, the Republic of South Africa is a good market for a number of U.S. farm products and could be a greater market in the future.

An important factor in enlarging this market is greater understanding by U.S. agricultural exporters of the South African economy: its potential as a market for U.S. farm products and as a competitor for world markets.

Currently, South Africa's temporary foreign exchange difficulties give U.S. producers an opportunity to utilize U.S. export credit programs to step up exports to South Africa.

These difficulties are hardly serious in a country which is the free world's primary source of gold and gem diamonds. But at the moment, South Africa's foreign exchange reserve is the lowest it has been in several years. Import licensing controls have been increased and efforts are being made to prevent capital from leaving the country. There are, however, no restrictions on payments of dividends and interest to foreign investors.

Substantial trade already exists between the United States and South Africa. The United States is the second largest source of South African imports—and the third largest buyer of South African exports. Most U.S. exports to South Africa, however, are nonagricultural, and the United States imports from South Africa about the same amount of farm products that country buys from the United States.

Several factors have contributed to keeping agricultural trade between the two countries smaller than it might otherwise have been. For one thing, there are 10,000 miles between internal markets in the United States and South Africa even though modern, regular shipping connects the two countries. More important is that the Republic produces all the major farm commodities grown in the United States and competes with this country in selling surpluses in many foreign countries.

However, since South Africa is approximately as far south of the Equator as the United States is north, seasonal differences make products raised by each country less competitive mutually and in world markets.

With an increasingly productive agriculture, South Africa is seeking to expand overseas markets. South African trade missions are probing market opportunities in all major countries.

South Africa's withdrawal from the British Commonwealth is not expected to change the country's international trade relations greatly. In the past, trade has tended to cut across political barriers and go where profits were greatest. The effort to develop new markets may not only widen South Africa's trade area, but result in the export of more products.

Part of most agricultural commodities produced in South Africa find their way to foreign markets. The most important are wool, corn (of which South Africa is the world's third largest exporter), citrus fruit, canned, fresh and dried deciduous fruits, sugar, wattle products, peanuts and oil, and mohair.

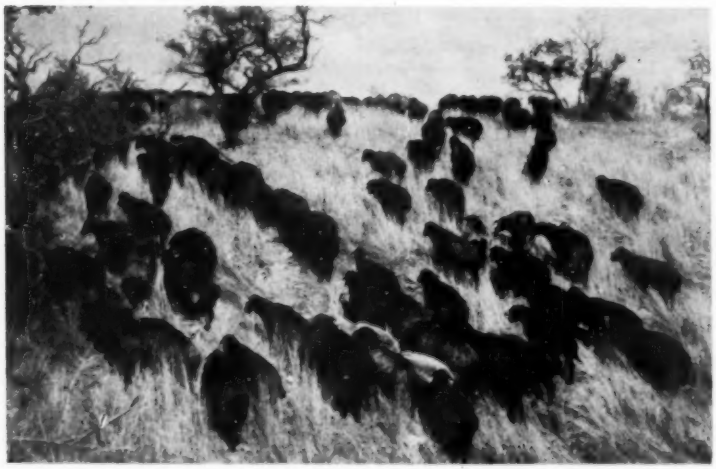
In 1960, South Africa's agricultural exports were valued at $416 million. This was 37.8 percent of the gross-at-farm value of its agricultural production for the 1959-60 season, which is estimated at $1.1 billion.

Not including gold, these exports supplied 38 percent of South Africa's foreign exchange earnings in 1960.

The bulk of domestic needs are satisfied by South Africa's farm production, as witness the fact that only about 8 percent of total imports are agricultural. In 1960, total agricultural im-

Corn is unloaded at Henenman. South Africa is the world's third largest corn exporter and a strong U.S. competitor.

Above, pineapples are loaded for trip to the cannery. Right, a young South African suns herself among drying peaches. Deciduous fruit—fresh, canned, and dried—is an important farm export.



Karakul sheep. Over 10 percent of karakul pelt exports come to the United States. Other hides and skins are also shipped to this country.

Some 57,000 ostriches are raised on about 200 farms. Tanned ostrich skin makes soft leather, and feathers —half of them come here— are used for ornaments.

Photos, South African Information Service

October 1961

ports were only $113 million of which $14.5 million had been purchased in the United States. The United States supplied sizable segments of South Africa's principal farm imports: 70 percent of cotton imports, 63 percent of tallow, 44 percent of rice, 57 percent of hog sausage casings, 43 percent of all essential oils, 84 percent of infant food, and 100 percent of its lard.

There is a potential for increased sales of many U.S. exports.

South Africa bought some U.S. wheat through the barter program in 1959. But no U.S. grain wheat went to the Republic in 1960, although $11.5 million of wheat was purchased from other sources.

South Africa claims that wheat more suited to domestic grade and milling requirements can be obtained elsewhere. The South Africans also prefer direct government-to-government trading to purchases through commercial channels. However, despite these factors there is an increasing potential market for U.S. hard wheat.

South Africa will probably import 200,000 to 400,000 tons of wheat annually in the immediate years ahead, the amount depending on a variable annual domestic production.

For a number of years the United States has supplied South Africa with most of its raw cotton requirements. Purchases in 1960 added up to $6.3 million. South African mills prefer U.S. cotton, because almost any staple length and quality can be readily supplied. Cotton mills are gradually expanding their capacity.

Competitive prices are important in this market. For the past 2 years South African mills have agreed to take all domestic cotton at a fixed price each year. This has been an integral factor in preventing imposed duties on raw cotton, though some thought is being given now to taking raw cotton off the free import list.

Increased domestic production of cotton is not too likely, though considerable research is underway to increase production per area planted.

Three years ago, the only U.S. rice going to South Africa was as breakfast cereals. By 1960, 44 percent of South Africa's grain rice imports were from the United States and by 1961, it is estimated that more than 50 percent will be purchased in the United States.

U.S. inedible tallow exports to South Africa declined for several years prior to 1959 because of higher prices. However, the United States supplied South Africa with $3.8 million of imported tallow in 1960 and the trend has been upward because U.S. tallow prices declined after 1958.

The trade attitude is favorable to U.S. quality tallow, though the recent upturn in U.S. prices could depress South African imports again.

South African imports from the United States of hog sausage casings, infant foods, essential oils, vegetable seeds, and canned asparagus rose to $2 million in 1960—65 percent over 1958. The outlook is that imports of these commodities will continue to grow unless import restrictions increase because of South Africa's unfavorable foreign exchange position.

Imports of U.S. dates, other sausage casings, hops, field seeds, and lard went over $1 million in 1960.

In 1960, U.S. imports from South Africa totaled $109 million, of which $20 million was for farm products.

Wool has long been far and away South Africa's biggest agricultural export to the United States and to the world. U.S. wool purchases in 1960 were 16 percent of all South African wool exports, and were valued at $17 million. In 1959, their value had been $20 million.

In the same year, the United States took over 10 percent of South Africa's total exports of karakul pelts (including those bought in London), 3 percent of all other hides and skins, and 50 percent of all ostrich feathers.

Wattle extract, wattle bark, and field seeds are also among agricultural commodities shipped to the United States. Wattle bark, used to tan leather, is a strong industry in South Africa and provides valuable trade possibilities.

United States-South African trade should continue at gradually expanding levels for the excellent reason that it is mutually profitable. Another factor contributing to closer trade ties is that U.S. investment interests and subsidiaries of a number of well-known U.S. manufacturers already have a substantial stake in South Africa.

Baby Food Exports Now Double 1950 Shipments

Buried in U.S. agricultural statistics and overshadowed by those for the big farm products is a comparatively small but significant figure—that for U.S. baby-food exports. In the last decade shipments of these chopped, strained, and specially prepared products have almost doubled, in volume and value. They now bring U.S. producers around $15 million a year.

Much of this increase has to do with the upward trend of the world's population. Also responsible are rising living standards, the spread of supermarkets, and the great number of American families now living abroad.

The baby-food market is a widespread one. Shipments go to well over 50 countries but the largest share is taken by the Latin American countries. Of the 28.3 million pounds sold abroad last year, Venezuela took 10.4 million, Cuba 2.5 million, Mexico 739,000.

Dairy products usually lead. In this group are the specially prepared dried milks in which the fat has been replaced by animal and vegetable fats, and sugar, lecithin, vitamins, and minerals have been added. Malted milk products are also included. Last year's shipments amounted to over 16 million pounds, valued at nearly $12 million. Venezuela was the leading customer with purchases totaling 6 million pounds, and the Philippine Republic was second, with 2 million.

In 1960 fruits ranked second. Some 7.5 million pounds were exported, the value running close to $2 million. Venezuela was the leading customer, followed by Cuba and Mexico.

Meat products, valued at $700,000, were third. Again Venezuela and Cuba were the two largest markets.

Vegetables at $568,000 and sugar products—mainly canned puddings and custards—at $74,000 ranked fourth and fifth. In order of importance, the markets for vegetables were Mexico, Venezuela, Cuba, and West Germany; for sugar products, Venezuela, Cuba, and the Bahamas.

The cereal group, though not classed as baby foods but containing many products for infants, added up to $2.1 million last year, also showing a decided rise over the 1950 export figure.

Egypt's New Cotton Controls Aim at Hard Currency Sales

The United Arab Republic's mounting concern over the large amount of cotton going to Soviet Bloc, rather than to hard currency countries, led the UAR's National Assembly in June to pass a series of laws giving the government almost complete control over the cotton industry. The last important segment of the economy to undergo nationalization, cotton had escaped thus far because of the government's unwillingness to rock the boat of its principal export commodity.

Briefly, these laws provide for the indefinite suspension of the Alexandria Cotton Futures Market, and all cotton contracts outstanding up to June 21 were required to be liquidated immediately. All sales and prices of cotton for domestic use and for export must be approved by the Egyptian Cotton Committee, a new governmental agency.

Egypt's 56 small cotton-exporting firms are to be merged into approximately 15 to 18 semigovernmental corporations. Within one year the government is to have bought 35 percent of each corporation's total share, and this percentage may go higher.

An important law gears Egyptian cotton prices to world prices and eliminates discounts for hard currency sales. In the past, discounts were used to bring Egyptian prices into line with world prices in order to attract Western buyers. The government's reduction of this discount to 6 percent last year, thus making the Egyptian prices noncompetitive, was held largely responsible for low export sales to the West during most of 1960-61.

Egyptian cotton exports in 1959-60 to hard currency countries were the best in 6 years; they led to a substantial reduction in Egypt's trade deficit. But total exports in 1960-61 were down about 15 percent, and only 34 percent of these went to hard currency importers. To encourage Western buying, recent unofficial trade discounts to the West have gone as high as 18 percent. Egpyt would like to raise the share going to hard currency countries to between 50 and 60 percent.

The United Arab Republic is now negotiating sizable contracts with both Britain and France and has further moved to earmark certain qualities of cotton for sale only to the West. The government may also refuse to grant import permits for Soviet goods for several months thus limiting Soviet credits for the purchase of cotton. It may also prevent cotton-exporting firms from selling more than 50 percent of their sales quotas to Bloc countries—and may require specific approval for all sales to the Bloc.

Egypt has always sold appreciable quantities of cotton to Bloc countries. But it was not until after the Suez crisis that the percentage began a more or less steady climb to the current imbalance of trade favoring the East.

During 1950-54, cotton going to the East averaged only 15 percent of Egypt's total cotton exports. By 1960-61, the share of these customers had risen to 66 percent. The Soviets' 1960-61 purchase of 406,000 bales and Czechoslovakia's 242,705 bales far exceeded those of any other importer.

These purchases are paid for with Bloc machinery and raw materials, which Egyptians feel are higher priced and often of lower quality than those available elsewhere. In addition, Egypt's growing dependence on Soviet machinery and raw materials only intensifies the East's hold on the Egyptian economy.

Probably the biggest rub for Egypt has been that Bloc nations consistently buy more than their own mills can use. They then sell the excess Egyptian cotton to Western buyers at prices lower than Egypt's. The Bloc countries lose money by undercutting Egyptian prices, but gain valuable foreign exchange Egypt itself needs badly.

The Egyptian Government has long tried to get the country's cotton exporters to limit sales to each importing country's probable consumption in an effort to eliminate transshipment sales. It is hoped that the recent legislative actions may for the most part correct this situation.

Impossible to control, however, would be sales to hard currency countries by the East of any Egyptian cotton stockpiled from last season's big Bloc purchases. If such stockpiles exist, they also would compete for Western markets with Egypt's current crops.

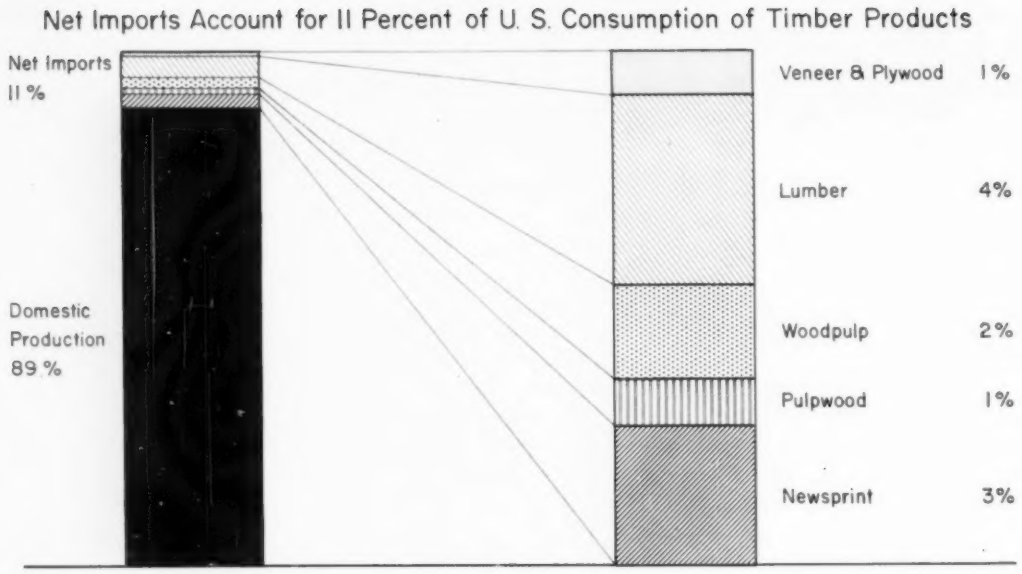
(Continued on page 22)

EGYPT'S COTTON EXPORTS TO SOVIET BLOC AND HARD CURRENCY COUNTRIES

(Bales of 500 pounds gross)

Country of destination	Average 1950-54[1]	1958[2]	1959[2]	1960[2 3]
	1000 bales	1000 bales	1000 bales	1000 bales
Austria	22	20	23	22
Belgium & Lux.	16	7	10	7
Bulgaria	3	15	21	15
China, Mainland[4]	36	121	252	73
Czechoslovakia	52	174	177	243
France	171	34	62	46
Germany, East	[5] 5	53	79	58
Germany, West	96	38	112	29
Hungary	25	27	36	39
India	178	54	167	75
Italy	135	38	81	39
Japan	71	56	81	61
Netherlands	29	7	10	2
Poland & Danzig	18	61	83	78
Rumania	12	27	37	51
Spain	53	48	12	37
Switzerland	51	19	32	20
United Kingdom	160	81	44	13
United States	91	9	97	106
U.S.S.R.	51	430	345	406
Yugoslavia	18	31	54	92
Other countries	54	30	23	21
Total	1,347	1,380	1,838	1,533

[1] Figures for some countries are less than 5-year averages. [2] Year beginning August 1. [3] Preliminary. [4] Includes Taiwan (Formosa) prior to January 1, 1953. [5] Included with West Germany prior to 1951.


Net Imports Account for 11 Percent of U. S. Consumption of Timber Products
Net Imports 11 %
Domestic Production 89 %
Veneer & Plywood 1%
Lumber 4%
Woodpulp 2%
Pulpwood 1%
Newsprint 3%

United States' Trade In Timber Products

Once a net exporter of timber products, the United States is now the world's largest importer, buying $1.6 billion worth a year.

By DWIGHT HAIR
Forest Service, USDA

In 1605, Captain John Weymouth of the British Navy sailed for England with samples of northern white pine timber cut somewhere along the coast of Maine. This started what rapidly became a large and thriving trade in timber products.

In the past 3½ centuries there have been many changes. White pine mast timbers for use in the "largest ships of the line," handmade staves, and clapboards, the chief items of trade in colonial days, have long ago been replaced by lumber, newsprint, wood pulp, and other manufactured products. And most important of all, the United States has changed from a net exporting to a net importing nation. This change occurred in the early 1900's, and the United States is now the world's leading importer of timber products.

In 1960, for example, net imports, including the roundwood equivalent of lumber, paper and paperboard, woodpulp, logs and bolts, veneer and plywood, amounted to 1.3 billion cubic feet. This represented about 11 percent of all the timber consumed in the country. Lumber composed 37 percent of these imports, and newsprint and other pulp products most of the rest.

The total value of timber product imports in 1960 was $1.6 billion. This represented about 11 percent of the value of total U.S. imports, and was substantially greater than for most other commodity groups. In the same year, timber product exports amounted to only $600 million—about 3 percent of the value of all exports and substantially less than for most other commodity groups.

Lumber

Lumber has long been a major item of trade in timber products. Although no data are available covering early trade, U.S. lumber exports were averaging around 1.5 billion board feet a year at the beginning of the 20th century. With some fluctuation they rose from this level to a peak of 3.2 billion board feet in 1928 but have since gradually declined. They now average about 0.8 billion board feet annually.

Lumber exports go to all parts of the world. Prior to World War II the biggest volume went to Europe, largely to the United Kingdom, but since then a sizable share has been going to Canada, Mexico, and Japan. In recent decades softwoods—chiefly Douglas-fir and southern pine—have accounted for 70 to 85 percent of exports, and hardwoods—largely oak—the balance.

In contrast to the decline in exports, lumber imports have increased gradually. Since 1941, when they first exceeded exports, they have climbed from 1.4 billion board feet to the present level of around 4 billion. As a result of this increase and the export decline, net lumber imports now make up about 8 percent of total U.S. lumber consumption.

During most years for which trade data are available, softwoods—largely Douglas-fir, pine, and hemlock used in construction and shipping—have accounted for 90 percent or more of total lumber imports. Canada has been the principal source, although small quantities of pine have come from Mexico, Brazil, and other Latin American countries.

The comparatively small volume of hardwood lumber imports (287 million board feet in 1960) has been largely composed of maple, birch, and beech from Canada, and a variety of

tropical hardwoods such as balsa, teak, mahogany, and granadilla from the Philippines, Latin America, and Africa.

Paper and Paperboard

After lumber, newsprint is the next most important item in the timber products trade of the United States. Tariff changes in 1911, which permitted the free entry of newsprint, opened the way for extensive trade in this commodity. Since then newsprint imports have increased from a few thousand tons to the present level of around 5.5 million. This represents about three-fourths of the newsprint used in the United States. Canada, chiefly the Provinces of Quebec and Ontario, has supplied nearly all (97 percent in 1960) of these imports, but small quantities have come from Sweden, Norway, and Finland.

Exports of newsprint have never been large, although they increased somewhat in the 1950's and now amount to slightly over a hundred thousand tons (135,000 in 1960). Most of these exports move to Latin America and the Far East.

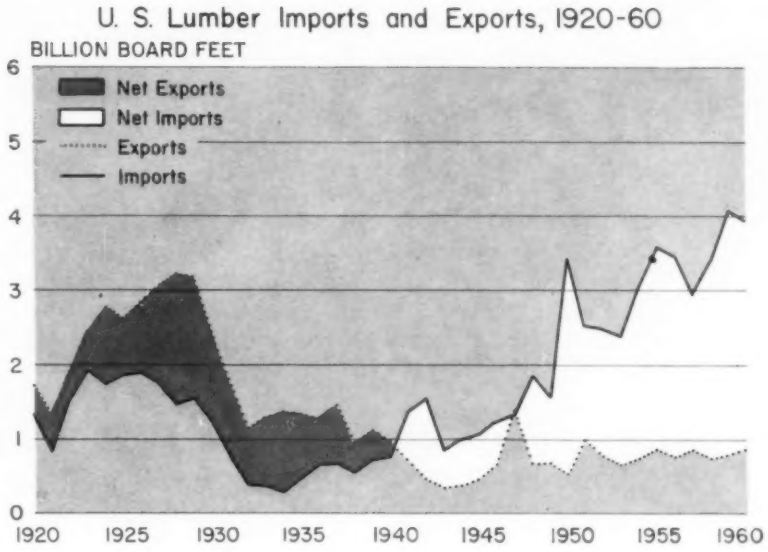
The United States also carries on a sizable trade in paperboard and paper other than newsprint, as the following tabulation for 1960 shows:

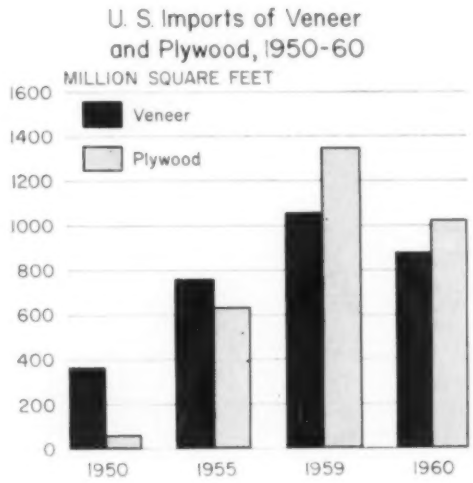
Item	Imports 1000 tons	Exports 1000 tons
Paperboard:		
Container board	9	413
Other paperboard	12	108
Total	21	521
Paper (other than newsprint):		
Printing paper	42	55
Fine paper	6	33
Wrapping and bag	65	79
All other	4	45
Total	117	212
Construction paper and board	106	34
Total	244	767

Exports in these products have been increasing and are now far larger than imports. The rise has been particularly rapid for paperboard, with the volume doubling in the last decade. Most of the paperboard exports go to industrialized countries of Western Europe.

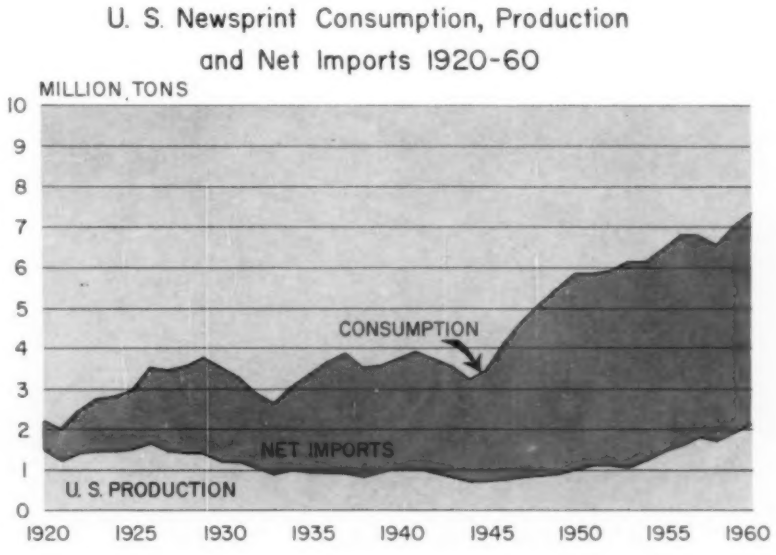
Woodpulp

Imports of woodpulp during 1960 amounted to 2.4 million tons and exports to 1.1 million. Imports, although fluctuating somewhat, have shown no decided trend since the late 1930's. In recent years Canada has supplied





The changes that have taken place in our timber trade show up clearly in these charts: Top, how the United States switched from lumber exporter to importer; middle, the 10-year rise in veneer and plywood imports; and bottom, our use of newsprint.



between 80 and 85 percent of the woodpulp imports and the Scandinavian countries about 15 to 20 percent. Two decades or so ago the situation was just about the opposite; then, up to 70 percent of woodpulp imports came from Scandinavia.

Woodpulp exports, on the other hand, have increased by more than 10 times since 1950. These exports have been largely to the United Kingdom and other countries in Western Europe.

Round Logs

A substantial part of the United States' trade in round logs is pulpwood imports from Canada. Although pulpwood imports have been above a million cords nearly every year since 1920, they have shown considerable fluctuation, ranging between a low of 600,000 in 1933 and a high of 2.5 million in 1951. Most of the pulpwood imports are consumed in pulpmills in the Northeast and Great Lakes area.

Although pulpwood imports have been substantial, exports were small until 1956 when they first exceeded 100,000 cords (162,000 in 1960.) Past exports have largely been border trade carried on with Canada.

In addition to pulpwood, the United States has carried on a small trade in saw logs and veneer logs. During most of the 1900's, imports were around 200 million board feet a year, but recently they have declined and now average about 100 million board feet. Softwoods, originating almost entirely in Canada, have generally accounted for about a quarter of the log imports. Some hardwood log imports have also originated in Canada, but most have come from tropical areas such as Southeast Asia, West Central Africa, and Central America.

Log exports were at about the same general level as imports during the early 1900's. They fell far below imports during World War II but gradually recovered and in 1960 amounted to 266 million board feet. Softwoods made up most of the log exports. In recent years more than half of the log exports have been shipped to Canada.

Veneer and Plywood

Imports of veneer and plywood were not important prior to 1950, but they have increased very rapidly since then. Plywood, for example, has climbed from 63 million square feet to the 1960 level of 1,025 million square feet. Nearly all of this increase was made up by luan plywood which, because of its beautiful natural appearance, good physical characteristics, and low price in relation to domestic hardwood plywoods, has been favored for interior paneling and flush doors. Most of the luan plywood imports have originated in Japan and the Philippines.

Although exports of veneer and plywood were relatively large during World II, they have generally not been significant in the postwar period. In 1960, veneer totaled about 60 million square feet and plywood 16 million. Most of the veneer exports during that year were shipped to Canada. Plywood exports, however, were widely distributed around the world.

A large number of other items are also traded. In 1960, for example, exports included 4.3 million linear feet of piling, 137 thousand poles, 243 thousand sets of tight cooperage staves, and a host of other products such as shingles, doors, and furniture parts.

The list of imports is fairly long too, with Christmas trees and posts well up toward the top. Last year some 14.3 million Christmas trees were bought from Canada—about a third of all the trees used in this country.

Egypt Reduces Large Landholdings To Increase Number of Farm Owners

The Egyptian Government recently issued a decree limiting to 100 feddans (104 acres) the maximum individual landholding in the Southern Region of the United Arab Republic. This is half the amount previously allowed under the initial Land Reform Law of 1952. The decree also gives a 50-percent reduction on all debts incurred with the government by farmers who received land under the first law.

Compensation for the requisitioned land is to be paid at a rate equal to ten times the rental value, which was established at seven times the basic land tax. To this is added the value of any construction, machinery, trees, or other improvements. It is reported that compensation will be in government bonds redeemable after 40 years.

The expropriated land will be made available to farmers and farm workers that are landless or own less than 5 feddans (5.2 acres). Some 6,000 or more farm families are expected to benefit from this new distribution. The recipients must pay the government the original amount required for compensation in addition to an interest fee plus any other transferral costs.

The new decree provides for the establishment of cooperatives among the farmers acquiring the requisitioned land, which will provide the following services: Advance agricultural loans, help in obtaining production supplies, aid in the marketing of principal crops, and other agricultural and social services as required by the members.

Most of Egypt's cultivated land is under private ownership, as less than 5 percent is state domain or dedicated to religion or charitable purposes. Prior to land reform it was badly distributed. Less than 1 percent of the landowners owned 34 percent of the cultivated land.

In addition to the land reform program, there are various development programs under way which the Egyptian Government hopes will improve the land tenure system. Through reclamation and more intensive irrigation on the existing cultivated area along the banks of the Nile in the South, it is expected that over a million additional acres will be put into cultivation within the next decade.

These expectations are centered mainly around the additional water to be made available by the Aswan High Dam and the major reclamation projects being carried out in the Liberation Province and at oases in the Western Desert. However, past experiences in putting land under irrigation and in reclaiming wasteland in Egypt clearly indicate that any further development of crop areas will be slow and costly.

Top, Tanganyikan workers load bunches of sisal leaves on cars. Center, the flowering poles of sisal plants provide nursery stock. Bottom, sisal fiber is graded at a mill in Tanganyika. From here it will be sold to manufacturers of rope, cord products, and twine.

Photos, Tanganyika Public Relations Dept.

By ROBERT E. ADCOCK
U. S. Agricultural Officer
Nairobi, Kenya

Sisal—Rope in the Raw

Kenya and Tanganyika are the world's leading sisal exporters and normally the United States' largest supplier. Together they produce almost half the world's 65 million tons a year.

Tanganyika, where sisal is the leading export crop, produces about three-fourths of all East African sisal. Kenya's share is increasing, and in 1960 sisal replaced tea as Kenya's second most valuable export crop. (Coffee is first.)

The United States buys about 12 percent of all raw sisal sold on the world market plus over 10,000 tons of such sisal products as rope, cordage, and binder and baler twine. Much of this comes from countries closer than East Africa, mainly Brazil and Haiti, which in the past decade have several times supplanted British East Africa as this country's chief source of sisal. British East Africa, however, was top 1960 supplier in both volume and value.

The United States also imports large amount of henequen, a fiber similar to sisal, for binder and baler twines.

In East Africa, sisal production is usually big farming. There are some small producers but the large estates turn out over 90 percent of the crop. Acreages on some estates—generally European-owned—reach the thousands.

Tanganyika's production has temporarily leveled off at about 210,000 tons per year, but Kenya's 1960 production of 63,000 tons represents a 58-percent increase since 1956. Both countries have plenty of ceiling for continued expansion, by increasing production per acre and number of acres in sisal.

Grower-supported sisal research stations carry out research in both these directions in the two countries. In Kenya, researchers found they could double production through such practices as planting about 2,000 uniformly large plants per acre (far more than usual), spaced in double rows with enough space between each pair to permit grazing; applying nitrogen fer-

tilizer or sisal waste; and leaving at least 35 leaves a plant after harvest.

These practices not only add to yields but the resulting uniformity of the plants from nursery to decorticating mill would permit volume production at a lower per unit cost. Plants would produce their normal 240-250 leaves in about 8 years instead of 10 and all the plants would send up flowering poles simultaneously. These practices would cut 2 years off the growing time and increase land use as much as 20 percent.

Tanganyika's sisal research station has developed a superior hybrid sisal. The effects of this development upon production will not be felt for another 5 to 10 years but the new plant is expected to produce more leaves and, therefore, more fiber.

On some estates, livestock management research goes hand in hand with sisal work. Grazing has been found not to harm sisal. On the contrary, planting of the right species between the rows and grazing properly actually increases production. Grazing is controlled by plantings of daggar-pointed sisal on each side of grass strips, along which a herdsman threads the cattle. Unlike the small African farmers, the people operating the big sisal estates hace capital to bring in better breeding stock and probably will.

Another problem facing sisal growers—and an unusual one—is giraffes. It is a common sight in Kenya to see a giraffe nibbling on the top of a thorn tree at the edge of a sisal field or on the tall flowering pole of a sisal plant. He cleans the flowering pole off as far up as he can reach.

Farmers harvest their nursery sets from these poles. If giraffes would stay away, poles could be cut off at about head height and sets would be produced profusely at the cut. So long as the giraffes are around, though, poles have to be kept high.

Aside from its susceptibility to attack by hungry giraffes, sisal is a hardy plant. It can survive desert and drought and flourish with little rain on shallow soils. It is native to Mexico's Yucatán Peninsula and was first brought to Tanganyika in 1897, probably from Florida. Kenya imported its first planting stock from Tanganyika 9 years later to begin its sisal industry.

Global Economists See Agriculture As Fulcrum of International Progress

The 11th International Conference of Agricultural Economics was held recently at Cuernavaca, Mexico. Meeting for the first time in Latin America, the 500 members present discussed various aspects of "The Role of Agriculture in Economic Development" during intensive 10-day sessions.

These brief excerpts are indicative of the thinking of some of today's agricultural leaders around the world.

Mexico, Julian Rodriguez Adame, Secretary of Agriculture.—We believe that agriculture must be stimulated to the maximum so that the rural population will be economically strong. The other sectors of the economy which integrate development, for instance, industrialization, should not be fostered at the expense of agriculture. Agriculture should receive the support of the other sectors of the national economy.

United States, Sherman E. Johnson, Department of Agriculture, Conference President.—A longer term goal of economic development should include opportunities for all farm people to earn real incomes equal to those available in other occupations for the same effort, skill, and managerial ability. Education and training must develop the latent capabilities of rural people so that they may transfer to other occupations when such employment offers better opportunities.

Nigeria, H.A. Oluwasanmi, University College.—In Nigeria the shift from subsistence production has been characterized by two major developments: the production of raw agricultural materials for the export market, and the building of modern systems of transportation and communication.

Burma, R.M. Sundrum and Aye Hlaing, University of Rangoon.—If agricultural development is to be more than a necessary condition of economic progress, it must be based on a new agricultural technology with an increase of productivity of land and labour.

Federal Republic of Germany, H. Wilbrandt, Technische Universitat.—Our aim is the commercial family farm in the industrial society. We believe that a family farm of sufficient size is no less efficient than big-scale farming.

Uzbek S.S.R., H.M. Jalioff, Institute of Agricultural Economics.—Experience has shown that the most progressive form in plant breeding is a brigade combining tractor operations with crop management (a complex brigade), where a certain group of workers is entrusted with a certain quota of machines and land for a period of at least one group rotation.

Canada, H.E. Andal, Department of Agriculture.—Because technology continues to advance, settlement patterns and institutions must be flexible if mankind is to reap the substantial benefits which technological advances permit.

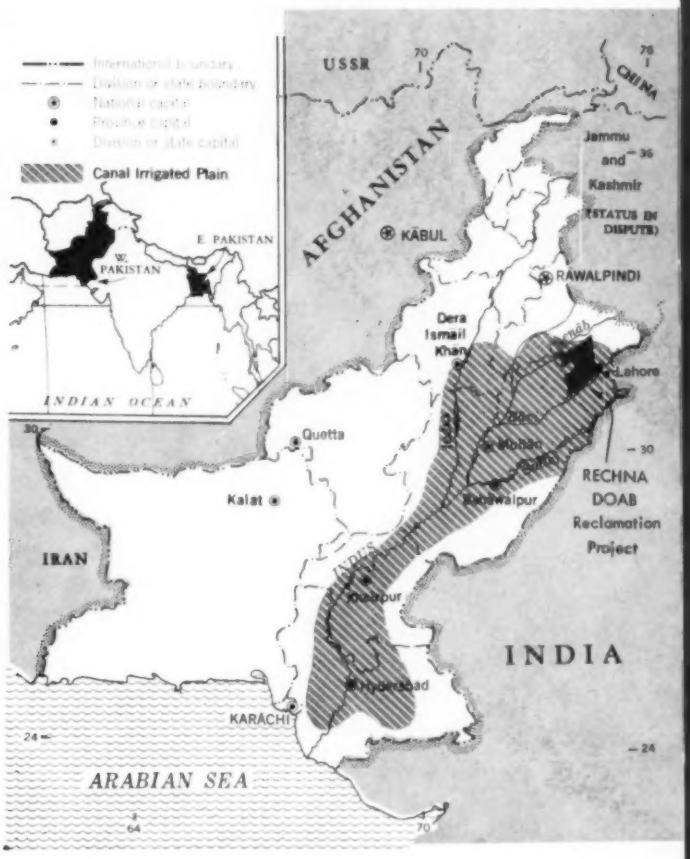
Changing attitudes toward the role of Public Law 480 were brought out in these comments:

Australia, J.G. Crawford, National University.—Where foreign exchange is a limiting factor to development, disposals can contribute to development by functioning as an addition to foreign exchange. There is room for further international action . . . . to make the contribution to economic development more effective.

India, S.R. Sen, Planning Commission.—If food aid is supplemented by adequate cash aid, and fitted into a comprehensive program for economic development, it should prove a powerful resource for accelerating economic development, improving the purchasing power and consumption levels of the underfed millions in the poorer countries, and generally promoting world trade including trade in surplus commodities.

Many of those at the Cuernavaca meeting had been present at an earlier gathering of the Joint Annual Meeting of the American Farm Economic Association and the Western Farm Economic Association held at Colorado State University at Fort Collins. Here two sessions had been devoted to international agriculture—the first largely to education's role in improving farm techniques in underdeveloped countries, and the second session to significant changes in foreign agriculture since 1945, in which speakers from India, Brazil, and Japan participated.

One-eighth of the earth's irrigated acreage is watered by the Indus River and its tributaries—the world's largest irrigation system. West Pakistan's share—some 24 million acres—lies within the shaded section on this map.



Pakistan To Reclaim Its Waterlogged Land

By STUART LERNER
Far East Analysis Branch
Economic Research Service

Pakistan is trying to reclaim from salinity and waterlogging millions of acres of land that were formerly the most productive in the Indo-Pakistan subcontinent. Because of these conditions, which affect more than half of West Pakistan's irrigated land, per acre yields are lower than they were before World War II. Some 3 million acres are believed to be out of production, and losses continue at 50,000 to 100,000 acres each year.

Paradoxically, it is irrigation, the thing that makes agriculture possible in the Indus River Valley, that has caused many soils to become too saline or too wet for cultivation. Almost all of Pakistan's irrigated land and about 14 percent of India's receive water from the Indus River and its tributaries through a vast network of canals. Some of the canals date from the eighth century and supply water during the summer months only when the rivers are in flood. Others, built during the last 100 years, supply water all year round; and these canals, some as wide as rivers at their source and more than 200 miles long, carry most of the water from the Indus River system to the farmers.

Drainage Problem

The Indus Basin is broad and flat, with poor surface and subsurface drainage. As with all alluvial valleys in arid climates rainfall has never been sufficient to leach away the salts that were laid down with the rich alluvial soils. (More than 75 percent of the area receives less than 10 inches of rain a year.) But prior to year-round irrigation, the water flowing in and out of the Basin was about equal. Also, the salts in the upper layers of the soil were not concentrated enough to affect crop production.

Today water supplied artificially through the canal irrigation system is equal to an additional 30 inches of rainfall over the entire area. It is this additional water that causes the trouble. The subsurface strata are not sufficiently steep for carrying it off, and drainage channels, where they exist, are generally inadequate.

This large volume of water has brought about a rise in the water table. With the water table close to the surface, capillarity—the molecular forces that cause water to move upward to the drier soil—together with surface evaporation of soil water, has carried the dissolved salts upward to the root zone. As irrigation continues the situation will get worse, and the accumulation of salts will accelerate.

If an adequate drainage system had been installed when the irrigation system was constructed, the rise of the water table could have been prevented, or at least restrained. Now Pakistan is faced with the very expensive alternative—reclamation of the land.

The Rechna Doab Project

Several land reclamation projects are in the planning stage, but one, located in the Rechna Doab[1] in the northeast corner of West Pakistan, is expected

[1] Doabs are local names for land that lies between two rivers. The name of the doab is derived from the neighboring rivers; i.e., Rechna Doab is the land that lies between the Ravi and Chenab Rivers.

to begin full operation by June 1962. It is the culmination of many years of study by the Pakistan Government, U.S. Government agencies, Colombo Plan countries, and the Food and Agriculture Organization of the U.N. Of its $35 million estimated cost, more than half is being financed with American aid: a loan of $15.2 million by the Development Loan Fund, and $7 million in rupees acquired from sales of farm products under Public Law 480.

Over a million acres are involved in the Rechna Doab project, which is designed to achieve two main goals—to create favorable drainage by lowering the water table and to increase water supplies for irrigation.

Before year-round irrigation began, water tables in the Rechna Doab, and in the Indus Basin in general, were 80 to 100 feet from the surface. Now, about 70 years later, 80 percent of the Rechna Doab has a water table that is within 15 feet of the soil surface, and on 10 percent of the land it is only 5 feet down. (Crop yields diminish when the ground water level is closer than 10 feet below the surface.)

Engineers use drilling rig to install tubewells which will lower the water table and help solve salinity problem.

To lower the water table 2,000 tubewells will be used. These are power-driven wells reaching 200 to 300 feet below the surface and lined with steel tubing about 20 inches in diameter. Slots in the tubing opposite the water-bearing soils permit sand-free water to enter and be pumped to the surface. The pumps will be powered by electricity produced from natural gas fields near Multan and hydroelectric power produced from the recently completed Warsak Dam near Peshawar, about 25 miles from the historic Khyber Pass.

The tubewells will pump water from natural ground storage at a much faster rate than the recharge rate. After about 40 years the water table will return to its original level, and then the quantity pumped will be limited to the rate of annual recharge.

The tubewells will also supply water for irrigation. Spaced along the distributaries, they will empty their water into them, mixing the ground water with canal water. The volume of water from underground is expected to be at least equal to the volume of river water now being supplied by the canals. Later, when the water table is back to the original level and less water is being pumped from underground, it is hoped that water from two high storage dams, now being planned for the Indus and Jhelum Rivers, near the Kashmir border, will be available for irrigation use.

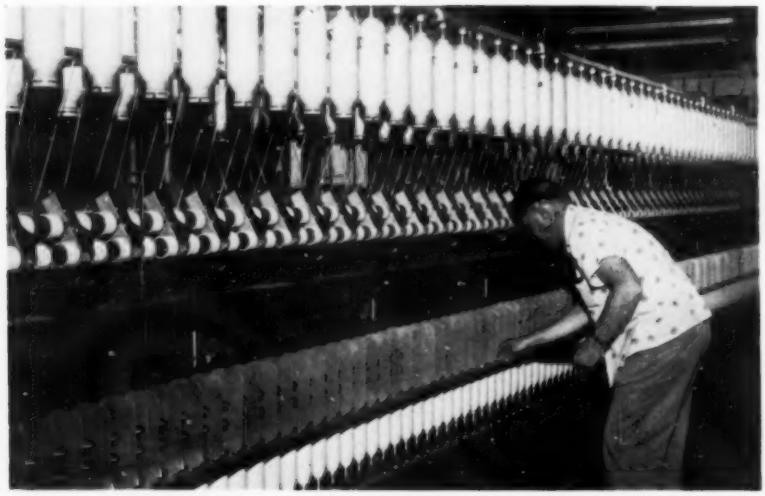
The waterlogged lands will be usable as soon as the water table falls to a level from which capillary action can no longer carry ground water to the roots—probably in 3 to 5 years' time. Effective drainage and the large quantity of water available will then permit leaching of salts from the surface soils and away from the root zones, so that gradually the saline lands will be brought back into production.

Technically, once lands are reclaimed yields per acre can be more than doubled. But this will require increased use of fertilizer, improved seeds, and improved cultural practices. Consequently, it will be many years from the time the project is in full operation before maximum benefits from it become available.

New Master Plan

If the work in the Rechna Doab is successful, and early indications are that it will be, it will serve as a pilot project for implementing Pakistan's master reclamation plan, published last May by the West Pakistan Water and Power Development Authority. This comprehensive plan for West Pakistan's 24 million irrigated acres will cost more than $1.2 billion over a 10-year period. Scheduled for construction are 7,500 miles of major drainage channels, 30,000 tubewells, and generation and transmission facilities for 600,000 kilowatts of electricity.

Severe type of waterlogging and salinity. Over half of West Pakistan's irrigated land is affected by these conditions which are menacing the country's agriculture.



Modern spinning frame (above) spins yarn from fibers that have already moved through other high-speed processes like carding (right).

The Case for U. S. Cotton

—how it meets the exacting requirements of today's high-speed textile industry

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The quality of the U.S. cotton fiber is good—"strictly good," to coin a term based on the lingo of the cotton trade. There is even evidence that the overall quality of the U.S. crop is higher today than 15 years ago.

Still, if a cotton processor encounters disappointing performance during manufacturing, it is perhaps only natural for him to question the quality of the raw material. But it is equally natural for U.S. cotton growers and exporters to be concerned at any such questions. They feel a responsibility for the fiber's worldwide reputation, and they know that unless our cotton is misused or abused, it will turn in a stellar performance.

In the long chain of interrelated processes through which the cotton fiber goes from field to fabric, it is extremely difficult to pinpoint the effect of any particular operation on the quality of the product. However, one thing is certain. With the spectacular speedups that modern technology has introduced into the industry, this delicate fiber is now absorbing more punishment at every stage than oldtimers in the cotton industry would have dreamed possible.

In addition, every manufacturer has his own ways of handling today's high-speed machines. As a result, it is quite possible for exactly the same raw material to turn in widely different performances for a number of different mills—thus confirming that the correct use of U.S. cotton means a product of high quality.

Technological Changes

The keyword in today's textile industry is speed; the key problem, as well as the outstanding achievement, is the tremendous increase in the speed of fiber movement. In efforts to reduce costs, new and speedier machines have been introduced at nearly every processing stage; older machines are being run faster. As a result, cotton is being processed at close to its extreme spinning limit. Small variations, either in the characteristics of the cotton or in any of the processes used on it—which would have been insignificant at the fiber movement rate of 15 years ago—can have marked effects today on performance as well as final product.

A "fiber's eye" view of a modern cotton mill, listing the main mill processes and the more recent changes in them, vividly illustrates what is now being expected of the cotton fiber.

Opening and picking. When cotton arrives at the mill, it consists of tangled masses of tiny, fragile fibers, tightly compressed into a bale weighing around 500 pounds. Several bales are opened at a time and a layer from each is fed into a machine that mixes, blends, and cleans the fibers. Revolving beaters and fans loosen the packed cotton and shake out debris—an ungentle process that has been stepped up from 400 pounds per hour per picker to 1,000. This means that instead of handling 7 billion fibers per hour, each picker is handling 18 billion. The cotton emerges as an unbroken fleecy sheet known as picker lap.

Carding. The lap is then fed to the carding machine, where the fibers are snatched from a slow-moving feed-roll by millions of high-speed revolving steel teeth, for further cleaning. Carding removes tangles and partially straightens the fibers. Even with precision settings and excellent maintenance schedules, carding has long been

recognized as extremely hard on the cotton fiber. In recent years, production rates have nearly doubled, which means even harsher treatment. Carding machines formerly handled 8 pounds an hour; now, they handle 15 and more, and instead of 140 million fibers an hour, nearly 263 million. Carding reduces the fluffy picker lap into a delicate film known as the card web. This is gathered together and comes off the machine as a loose, soft, inch-thick rope—the sliver.

Drawing. The next operation involves drawing out the sliver to a much longer, thinner form and further straightening the individual fibers. Groups of slivers are run together through revolving rollers; they emerge as a single "drawing sliver." The amount of pull exerted on the cotton fiber at this stage has been tremendously increased. The slivers are moving through heavier weighted rolls at rates upwards of 600 feet a minute instead of the former 120.

The drawing sliver in turn is fed to another machine, which draws it out still further to a thin strand called the roving. Nowadays the roving process is often condensed from as many as three stages to only one, with much greater drafts and higher speeds—and much more strain on the fiber.

Spinning. The roving, wound on bobbins, is ready to be spun into yarn. It is at this point that all the prior yarn-preparation methods pay off. Yet it is often not until this point that millowners begin to measure the performance of the raw material, regardless of what has or has not been done to it to ready it for the spindle.

A favorite measure of spinnability is "ends down per spindle per thousand spindle hours," or the number of times the yarn breaks in spinning. But each spindle is now revolving much faster, producing more yarn, and putting far greater strain on the yarn than formerly. Spindle speeds have risen from 9,000-9,800 revolutions per minute to 12,000-14,000. Thus, a more realistic measure would now be "ends down per pound of yarn per hour," with a correction for the size of yarn being spun. It is easy to see that sometimes the traditional ways of judging cotton's performance cannot fairly be applied in today's modern operations.

Slashing. Yarn destined to become the warp or lengthwise threads on the loom needs strengthening to withstand today's increased loom speeds. The warp yarn is run through the slasher, which coats hundreds of strands simultaneously with hot starch and waxes. Slasher speeds have increased 300 percent. This whole process, like all the others, involves rewinding of the product to change the "package" form for use on the next machine. Winding speeds, like all others, are much faster.

Weaving. At the loom, the fiber faces one of its most difficult tests, as the warp threads are repeatedly snatched apart to make room for the high-speed shuttles carrying the woof or crosswise threads. A few years ago the shuttles operated at 150 picks per minute; they now flash back and forth between the warp threads at dizzying rates of 210 or more.

Finishing. Even after the fabric is woven, there remain many finishing processes such as bleaching, mercerizing, shrinking, dyeing, printing, and so on. These can involve pressure, heat, the action of water or chemicals, or any combination thereof. Here, too, demands have been increased.

Processing Variations

Among the mills that use U.S. cotton the world over, no two are equipped or operated in exactly the same way. There are almost unlimited combinations of processing conditions, types of machines, machine settings, and standards of quality at each stage, all of which contribute to differences in the cotton's spinning behavior and the quality of the yarn produced. Changes in a mill's techniques, intentional or otherwise, can easily alter the quality of a given machine's product, particularly if these changes are not integrated properly into the mill's entire series of operations.

The area of spinning is especially sensitive to the precision settings of each element in the spinning mechanism. A striking example of how differences in spinning technique can affect quality is a case in which identically processed roving was spun into yarn by 11 different mills. The yarn break-factor varied significantly, and the mill with the lowest yarn strength could well have blamed the raw cotton.

Even more striking is a study of quality differences arising from the processing techniques used before the spinning stage. For this study, 10 bales of similar quality were supplied to each of 20 mills. The mills were natural competitors, each producing the same size of yarn; but there were 40 different processing combinations. Product quality was measured at several stages, with interesting findings.

The result obtained on the same cotton from manufacturing carried on under the best and most carefully controlled conditions was set as an arbitrary 100-percent standard. Against this, the scores of the 20 mills ranged from a low of 62 percent to a high of 88. Variations in individual quality properties were equally wide. The count of neps (small fiber tangles) ranged from 5 per 100 square inches of card web to 65; that of card web imperfections, from 4 to 42. Yarn imperfections varied from 36 to 96 per 50 yards. Warp yarn break-factors ranged from 2,109 (indicating the least strength) to 2,305 (the most). These comparisons show that, from the same quality of raw stock, some mills are getting considerably better products than others are.

A Summing Up

Even under the speeds and pressures of today's machinery, U.S. cotton is doing an outstanding job. Many mills are combining the intelligent selection and use of the U.S. fiber with precision adjustments, modern machines, and high-speed processing. In these circumstances, they can obtain highly satisfactory results—and they do.

None of this discussion is intended to belittle or criticize the great surge of advancing technology that has brought about so many new developments throughout the world's cotton industry. Rather, it is meant as encouragement to make the best possible use of these developments—and others yet to come—in producing the finest of yarns and fabrics under the most economical of conditions. I am confident that, with the combined efforts of plant breeders, ginners, engineers, fiber and textile technologists, and cotton dealers, U.S. cotton will continue to meet this rapidly advancing industry's ever more exacting demands.

The Palermo Livestock Show

–major event of Argentina's livestock year

Argentina depends upon cattle for most of its agricultural income. In the life of this cattle-conscious country the annual Palermo Livestock Exposition is an event of nationwide consequence and often attracts international attention as well.

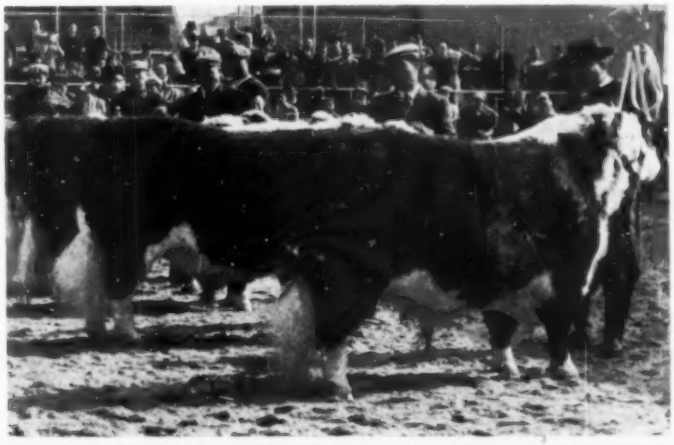
The champions parade about the show ring on the opening day. A week of selling follows the exhibit. Most of the stock shown must be sold.

The Polled Hereford Grand Champion. This breed is expected to grow rapidly in popularity in the next few years. The United States sells breeding stock for these cattle and American breeders use the show as an opportunity to promote their product.

Herefords, an important beef breed in Argentina, march past Texas cattleman Jack Turner (with cane), 1961 Hereford judge. Judging goes on for 3 days during the week before opening day.

Franklin D. Roosevelt, Jr., one of the delegates sent by the American Polled Hereford Association, takes closer look at a Horned Hereford. Herefords, polled and horned, are the second most popular beef breed.

Polled Hereford entries await the scrutiny of the judges. All these animals will then be sold—unless their owners choose to pay the penalty usually charged for keeping animals after they have been shown at the exposition.



Japanese Government Works To Raise The Nutritional Levels of Farm Diets

Farm family meals low in cost but high in nutritional value are demonstrated at the agricultural fair, Nagaoka, Japan, in the campaign to raise dietary levels.

An average Japanese farm worker spends 22 cents a day for his food. This diet provides 2,500 to 3,000 calories, 76 grams of protein, and 17 grams of fat, more than the recommended daily allowance of protein but only about a third of that for fat.

Rice mixed with barley makes up most of this diet—two bowls of it at breakfast and three each at lunch and supper. Vegetables, both cooked and pickled, and miso (soybean paste) soup provide most of the rest. The evening meal may include baked fish.

For the same cost and the same calorie intake this diet can be upgraded to include 84 grams of protein and 26 of fat, mainly by substituting three large rolls made of wheat and soybean flour for the rice at lunchtime. Protein is sufficient in the present diets of Japanese farm workers, but the general upgrading of the diet to include more of other necessary nutrients would increase the amount of protein as well.

The Home Life Improvement Section of the Japanese Ministry of Agriculture and Forestry is encouraging farm families to make these changes by demonstrating cooking and serving techniques before groups of Japanese farm wives. They are confident that the changes will be made as increasing nutrition-consciousness accompanies increasing incomes. They have even gone a step further and recommended a diet that, for 11 cents more per person per day, yields 102 grams of protein and 32 grams of fat within the allowance of 2,500 to 3,000 calories.

Inclusion of an egg for breakfast, perhaps the most tradition-bound of Japanese meals, and meat for lunch are the main innovations in this more expensive diet. Neither bread nor rice appears on the luncheon table but there is a dish made of noodles, oil, miso, ground meat, onion, and carrots, to go along with the plain vegetable dish. Rice intake is again cut down by substituting a potato for one of the bowls of rice at dinner time.

Charles Elkinton, U.S. Agricultural Attaché, Tokyo, tries some of the foods.

Egyptian Cotton

(Continued from page 11)

An important element in the Bloc's success in marketing its Egyptian cotton has been a number of former Alexandria cotton merchants, mostly non-Egyptian, who have left Egypt in recent years to set up shop in Italy and Switzerland. These brokers, with intimate knowledge of Egyptian cotton, have reportedly developed a thriving business as forwarding agents for the Bloc's Egyptian cotton, and now have an interest in perpetuating this trade.

Faced with the prospect of a price war with Bloc-held Egyptian cotton, Egypt has moved to reach an amicable agreement on prices with Sudan, which, after Egypt, is the world's largest producer and exporter of extra long staple cotton. Egypt is not minded to fight a price war on two fronts and particularly one which could hurt either itself or Sudan, one of the African countries Egypt wants to draw into closer political and economic relationship.

World Tobacco Trade

(Continued from page 7)

at around 90 million pounds by increasing shipments to Tropical Africa, the Soviet Union, and Belgium, despite the loss of markets in Japan and Mainland China. Exports by Indonesia and the Philippines reached 53 million and 28 million, respectively, in 1960.

Latin American exporters shipped 200 million pounds of leaf in 1960. The Common Market countries, the United States, Spain, and Africa are the most important markets for dark tobaccos from Brazil, Cuba, Colombia, the Dominican Republic, and Paraguay. Mexico and Argentina made sharp export gains in 1960, although their volume is still relatively small.

Growing world tobacco consumption and a general trend favoring quality tobacco helped U.S. tobacco exports to rise in 1960 after a 4-year decline. Without these factors, U.S. exports would not be at their present high level. Price differentials between U.S. tobacco and other tobaccos of improving quality—and trade barriers against U.S. leaf—make it difficult for U.S. exporters to compete effectively in the growing world market.

TRADING POST

Dutch Stockpiling Tobacco Prior to EEC Tariff System

In an effort to stockpile tobacco before its present 3.8-cents-per-pound import duty on tobacco switches to a 30-percent ad valorem duty under the Common Market tariff system, the Netherlands more than doubled leaf purchases from its five major suppliers in the first 3 months of 1961 compared with the same period in 1960.

Dutch imports from the United States jumped from 5.2 million pounds in the first quarter of 1960 to 12.7 million in the first quarter of 1961. Imports more than doubled from the Federation of Rhodesia and Nyasaland, Indonesia, Brazil and the Republic of South Africa.

Once the expected changeover goes into effect, Dutch imports will probably drop back to pre-stockpile levels. At these normal purchasing levels, U.S. tobacco exporters face the fact that though factory use of tobacco is increasing in the Netherlands, use of U.S. leaf is not increasing at the same rate, owing to its higher cost and to fixed prices for tobacco products.

U.S. Legume and Grass Seed Set Export Record

U.S. exports of grass and legume seed set a new record in the crop year ending June 30. More than 63 million pounds were shipped, 36 percent above last year's figure and 26 percent over 1954-55, the previous record year.

Clover seed made up the majority of the exports and showed a large increase—from 5,729,000 pounds in 1959-60 to 8,580,000 in 1960-61. Alsike clover declined slightly but ladino and other clovers all increased.

Fescue exports also increased greatly —from 4,788,000 to 7,900,000 pounds —and it replaced bentgrass as the second most popular seed export. Bentgrass was the only seed other than alsike whose export volume decreased.

Soviet Whale Oil Enters West European Market

The Soviet Union, a rapidly growing member of the world's family of whaling nations, made its first sales on the world whale oil market last year. Approximately one-third of its 1960 catch went to an international trading firm, presumably for resale to West Germany and the Netherlands, two large outlets for U.S. vegetable oils.

The catch reported was the equivalent of 2,782 blue whales, slightly below the USSR's allowance for the year.

Currently, the Soviet Union imports large amounts of hardened marine oils from Norway; therefore, there was some surprise at the Russians' exporting whale oil. In the future they are expected to consume most of their production domestically.

Colombia To Import Beans, Peas and Lentils

The Colombian Government expects to purchase 5,000 metric tons of beans, and 1,000 tons each of peas and lentils this year. This rescinds at least for the time being the strict import controls begun in 1957 to encourage domestic production.

The government has already begun to purchase beans and lentils in the United States, which with Ecuador and Chile formerly supplied the bulk of Colombian imports. Since exportable bean supplies are down this year in Chile and production may be down in Ecuador as it is in nearby Peru and Colombia, the United States stands a good chance of once again being the principal source of these commodities.

The United States does not grow Colombia's favorite round red, brown, or black beans, but should be able to supply red kidney or black beans, on a commercial basis—and possibly some pea, pinto, small red, or other beans, some of which are in surplus, through government export programs.

Canadian Wheat Exports Up 27 Percent in Fiscal 1960

Canadian wheat shipments for the fiscal year 1960-61 approached 306 million bushels—about 27 percent larger than 1959-60, making it one of Canada's biggest postwar wheat export years. The increased shipments went mainly to Europe and Asia, primarily West Germany, Italy, Japan, the USSR, and, for the first time, China.

Flour exports also increased. In the first 10 months of the year, 31.3 million bushels, wheat equivalent, were shipped, an increase of 600,000 over the same period a year ago. This flour went principally to the United Kingdom market.

Argentina Reduces Taxes On Meat Export Trade

Argentina removed its 10-percent ad valorem export tax on meats, including variety meats, in a move expected to stimulate meat exports considerably. These increased exports will—

- Heighten competition for U.S. variety meats, particularly in Western Europe;
- Stimulate additional canned meat exports to the United States (there is a U.S. quarantine ban on all Argentine fresh meat except horsemeat);
- Increase the relative attractiveness of the U.S. carcass-meat market as increased exports tend to depress U.K. prices; and
- Intensify competition for U.S. tallow, hides, skins, and lard exports.

Britain Buying Less Mohair, Japan More

U.S. mohair exports were up in the first 6 months of 1961 but the United Kingdom, historically the largest buyer, took less than it did a year ago. Purchases by the three other leading importers—Japan, the Netherlands, and Belgium—increased, Japan's to nearly twice the 1960 volume.

Mohair, the long silky hair of the Angora goat, is used in combination with wool or synthetics to give body to woven fabrics. In Japan an expanded wool textile industry accounts for the rise in mohair imports. Ordinarily any sharp rise or fall in the mohair trade reflects a style change.

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Italy-USSR Trade Pact May Up Soviet Wheat Sales

Italy will import almost 30 million bushels of Soviet wheat in the next 3 years if the bilateral trade agreement now at the negotiating table comes out as planned. This would be a 70-percent increase over 1958-61 Italian imports of Soviet wheat and make exports from the USSR account for one-fourth of Italy's total wheat imports.

The Soviet wheat will augment a far larger 1961 Italian wheat crop than was expected—if the present estimate of 290 million bushels is fulfilled.

South Africa To Boost Citrus Juice Exports

South Africa's citrus industry, which has sustained tremendous growth since World War II, doubling its exports in the past 10 years, is looking ahead to another big source of revenue—frozen citrus juice.

In July a $1.2-million citrus juice extraction plant opened in the Republic, with a processing capacity of 150 tons of citrus every 24 hours, to be stepped up to 300 tons if desired.

The plant was designed primarily for oranges but grapefruit, lemons, and tangerines can be processed as well. Byproducts will include oil from fruit peel and a minced peel for industrial uses and cattle feed.

Up to now South Africa has been processing and exporting citrus juices on a small scale. With the new plant it is expected that some 15 million cases will be sold abroad—principally to Western Europe—by 1965.

U.S. Lard Exports to U.K. Drop for First Half of Year

United Kingdom imports of lard from the United States in the first 6 months of 1961 were only 65 percent of the January-to-June 1960 figure. Imports fell from 203.3 million pounds to 132.5 million pounds in this, the United States' largest lard market.

Overall imports and imports from Canada and Sweden were also cut. Part of the slack was taken up by increased U.K. imports from France, Denmark, Belgium, and the Netherlands—all but Denmark members of the EEC, in which the United Kingdom has applied for membership.

The shift reflects higher U.S. lard prices following a drop in production; greater European output plus a drop in price; and the use of more vegetable oils and less lard in shortenings.

Guatemalan Bank Offers Money for Cattle Loans

Guatemalan cattlemen have half a million dollars in loans available to them for the express purpose of buying U.S. and Canadian breeding cattle. This fund, made available by a private bank in Guatemala, marks the first time that a private bank has supplied medium-term loans in such amounts. Other banks are expected to follow their example.

Guatemala's recent first shipment of frozen boneless beef to the United States also gave that country's cattlemen reason for optimism.

West German Poultrymen To Get Government Aid

Poultrymen in West Germany, the leading export market for U.S. poultry, will receive government subsidies of 4 to 10 cents a pound on all produce marketed under 8 months of age. These are meant to balance feed costs, kept high by grain price supports and equalization fees charged against imported feed grains.

New labeling regulations requiring the country of origin to appear on all poultry products were announced simultaneously with the subsidies.